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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,665	07/21/2003	Lawrence C. West	107262.199US1 and 7090/P0	5061
7590 12/10/2004			EXAMINER	
PATENT COUNSEL, Legal Affairs Dept. Applied Materials, Inc. Box 450A Santa Clara, CA 95052			KIELIN, ERIK J	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,665	WEST ET AL.	
	Examiner	Art Unit	
	Erik Kielin	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-13, 16-22, 25-32 and 34-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-5, 8-13, 16-22, 25-32 and 34-47 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20041203</u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, 8-13, 16-22, 25-31, and 36-47, drawn to a device, classified in class 257, subclass 228.
 - II. Claims 32, 34, and 35, drawn to a method of fabricating a device, classified in class 438, subclass 29.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process, such as by fabricating the microelectronic circuitry at the same fabrication facility instead of selling it to a purchaser.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

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5. Should Applicant elect the invention of Group I, then one of the species must additionally be elected, based upon the different substrate embodiments disclosed in the instant specification at paragraph bridging pp. 2-3 and p. 14, lines 8-10:

A. single semiconductor layer defining top surface of optical ready substrate with optical circuitry **beneath** the top surface of the substrate. (It appears that claims 1, and 36-41 read on this species.)

B. carrier substrate made of first semiconductor layer with second semiconductor layer directly thereon and defining top surface of optical ready substrate with optical circuitry formed at the interface between the first and second semiconductor layers (It appears that claims 10-13, and 16-18 read on this species.)

C. carrier substrate made of first semiconductor layer with insulating layer directly thereon and a second semiconductor layer directly on the insulating layer and defining top surface of optical ready substrate with optical circuitry formed just below the insulating layer (It appears that claims 19-22, 25-29, 42-47 read on this species.)

D. single semiconductor layer defining top surface of optical ready substrate with optical circuitry **on** the top surface of the substrate. (It appears that claims 2-5, 8, and 9 read on this species.)

Note the following problems with the claims, as presently written, due to Applicant's Preliminary Amendment creating several indefiniteness problems.

(1) Claim 30 depends indirectly from claim 1 via claims 36, 37, and 40 and recites a “the second semiconductor layer” and “the insulator layer” neither of which have antecedent bases. Accordingly, it would appear **based on claim dependency** that claim 30 belongs with species A above, while it would appear **based upon the elements recited** that claim 30 belongs with species C above. In any case, given these deficiencies, claim 30 cannot be examined as presently written.

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(2) Claim 2 --which indirectly depends from independent claim 1 via claims 36, 37, and 40-- appears to re-define the top surface of the substrate from being that of "the first semiconductor material" as recited in lines 2-3 of independent claim 1 to being the "the first layer region." This contradicts claim 1, because claim 1 states that "the first layer region" is formed "**beneath the top surface of the substrate.**" (Emphasis added.) The top surface cannot be re-located, as this amounts to the claiming of a wholly different invention, rather than to further limiting the invention described in claim 1. It is believed that Applicant intended claim 2 and the claims depending therefrom to be directed to the species indicated on p. 14, lines 8-10 wherein the optical signal distribution circuit is formed on the top surface of the substrate, as opposed to beneath it.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

It is further noted that should Applicant elect the invention of Group II and add additional species not already claimed, then additional requirement for restriction may result.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, **and a listing of all claims readable thereon, including any claims subsequently added.** An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the

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limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

7. Given the present problems inherent in the claims as a result of the Preliminary Amendment --which was Examiner's Assumption to be directed to canceling the co-pending claims 1-31 drawn to the device presently being examined in the parent application (10/280,492), leaving the method claims 32-35, rather than introducing 4 additional species of device-- a telephone election is not believed to be proper since all claims are not presently in condition for a first action on the merits.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 571-272-1693. The examiner can normally be reached on 9:00 - 19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erik Kielin
Primary Examiner
December 3, 2004